

9779-5

09/20/2012

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460



OFFICE OF  
CHEMICAL SAFETY AND  
POLLUTION PREVENTION

SEP 20 2012

Diana Williams  
Winfield Solutions, LLC  
P.O. Box 64589  
St. Paul, MN 55164

Subject: Submission of amended labeling per Use Deletion Guidance 12/30/08 and revised May 2009 Malathion RED Label Table  
EPA Reg. No. 9779-5  
Submissions dated January 19, 2009

Dear Ms Williams:

The proposed labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), is acceptable provided that you submit two copies of your final printed label before you release the product for shipment. Products shipped after 12 months from the date of this amendment or the next printing of the label whichever occurs first, must bear the new revised label. Your release for shipment of the product bearing the amended label constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e).

The Basic Confidential Statement of Formula (CSF) dated 1/28/11 and the Alternate Formulation #1 dated 1/28/11 are acceptable. All other CSF's including Alternates have been superseded by these new CSF's. These have been added to your record.

Your product has met and is in compliance with the risk mitigation provisions of the 2009 Malathion RED and therefore your product is reregistered pursuant to FIFRA § 4(g)(2)(C). But note, EPA is currently reassessing the cumulative impact of organophosphates and that review may impact your product once complete. A stamped copy is enclosed for your records. If you have any questions, please contact Marianne Lewis at (703) 308-8043 or [lewis.marianne@epa.gov](mailto:lewis.marianne@epa.gov).

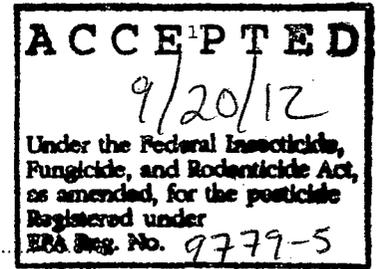
Regards,

A handwritten signature in black ink that reads "Venus Eagle".

Venus Eagle, PM 01  
Insecticide-Rodenticide Branch  
Registration Division (7505P)

Enclosure

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# Malathion 5

## An Emulsifiable Concentrate

ACTIVE INGREDIENT	
Malathion (0,0-dimethyl phosphorodithioate of diethyl mercaptosuccinate).....	45.2%
OTHER INGREDIENTS*.....	
TOTAL .....	100.0%

Contains 5 pounds malathion per gallon.  
\*Contains 35.2% of Xylene range aromatic solvent.

### KEEP OUT OF REACH OF CHILDREN

## WARNING/AVISO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand this label, find someone to explain it to you in detail.)

FIRST AID ORGANOPHOSPHATE	
IF IN EYES	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
IF INHALED	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
IF ON SKIN OR CLOTHING	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
IF SWALLOWED	<ul style="list-style-type: none"> <li>• Immediately call a poison control center or doctor.</li> <li>• Do not induce vomiting unless told to by a poison control center or doctor.</li> <li>• Do not give any liquid to the person.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For further emergency medical information call toll-free 1-877-424-7452.</p>	
<p><b>NOTE TO PHYSICIAN:</b> Malathion is an acetyl cholinesterase inhibitor. Atropine is antidotal. Contains petroleum distillate. May pose an aspiration pneumonia hazard.</p>	

#### Read and follow additional PRECAUTIONARY STATEMENTS

EPA Reg. No. 9779-5

EPA Est. No. 070989-MO-001

Distributed By:  
Winfield Solutions, LLC  
P.O. Box 64589, St. Paul, MN 55164-0589

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# WINFIELD™

# AgriSOLUTIONS™

**PRECAUTIONARY STATEMENTS**  
**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**WARNING:** Causes substantial but temporary eye injury. Harmful if swallowed. Harmful if absorbed through skin. Do not get in eyes, ~~on skin~~ or on clothing. Avoid contact with skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

**Personal Protective Equipment:**

Some materials that are chemical-resistant to this product are Barrier Laminate, Butyl Rubber, Nitrile Rubber or Viton. If you want more options, follow the instructions for category F on an EPA chemical resistance category selection chart.

Mixers, loaders, applicators, flaggers and other handlers must wear:

- protective eyewear
- long-sleeved shirt and long pants,
- shoes plus socks,
- chemical resistant gloves,
- chemical resistant hat (for air blast applications), and
- chemical resistant apron (for mixing & loading ULV formulations).

**User Safety Requirements:**

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

**Engineering Controls:**

Pilots must use an enclosed cockpit in a manner that is consistent with the WPS for Agricultural Pesticides [40 CFR 170.240(d)(6)]. Pilots must wear the PPE required on this labeling for applicators.

**USER SAFETY RECOMMENDATIONS**

Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**ENVIRONMENTAL HAZARDS**

This pesticide is toxic to aquatic organisms, including fish and invertebrates. This product may contaminate water through drift of spray in wind. This product has a high potential for runoff after application. Use care when applying in or to an area which is adjacent to any body of water, and do not apply when weather conditions favor drift from target area. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product.

A level, well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from rainfall-runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

This pesticide is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area.

Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

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**PHYSICAL AND CHEMICAL HAZARDS**

Combustible. Do not use or store near heat or open flame. This product is incompatible with oxidizing agents.

**DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

**AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI). The REI for each crop is listed in the directions for use associated with each crop.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: coveralls, shoes plus socks, and chemical-resistant gloves made of any waterproof material.

**NON-AGRICULTURAL USE REQUIREMENTS**

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, or nurseries.

Do not enter or allow others to enter until sprays have dried.

**STORAGE AND DISPOSAL**

**DO NOT CONTAMINATE WATER, FOOD, OR FEED BY STORAGE AND DISPOSAL.**

**STORAGE**

**PESTICIDE STORAGE:** MALATHION 5 should be stored in the original unopened container in a secure dry place. Do not contaminate with other pesticides or fertilizers. The product should never be heated above 55° C (131° F), and should not be stored for long periods of time at a temperature in excess of 25° C (77° F). In the event of spillage or leakage, soak up material with absorbent clay, sand, sawdust, or other absorbent material. Scrape up and dispose of in accordance with information given under DISPOSAL.

**DISPOSAL**

**PESTICIDE DISPOSAL:** To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry.)

**CONTAINER DISPOSAL:**

**Nonrefillable containers equal to or less than 5 gallons: Nonrefillable container.** Do not reuse or refill this container. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**Nonrefillable container greater than 5 gallons: Nonrefillable container.** Do not reuse or refill this container. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining

contents into application equipment or a mix tank. Fill the container  $\frac{1}{4}$  full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**Refillable container.** Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure or accident, call  
CHEMTREC 1-800-424-9300

### PRECAUTIONS AND RESTRICTIONS

Do not apply this product through any type of irrigation system.

All ULV formulations must be packaged in closed mixing and loading systems.

Apply MALATHION 5 by either ground sprayers or by airplanes, mixing the MALATHION 5 in water to form an emulsion spray solution. To make the spray solution, half fill the spray tank with water, agitate, add the specified amount of MALATHION 5 and then fill the spray tank with water while still agitating. Continue to agitate during use.

The dosages given under DIRECTIONS FOR USE are the amounts of MALATHION 5 to be applied per acre treated per application. Where a dosage range is given, use the lower rate on small or young plants or with light insect infestations; use the higher rate on large or more mature plants or with heavy insect infestations. The hazards and precautions for handling MALATHION 5 in this container are equally applicable to it after dilution with water for spray application.

For non-ULV applications, apply the specified amount of MALATHION 5 in a minimum of 30 gallons of water per acre by ground and a minimum of 5 gallons of water per acre by air, unless otherwise specified within the Directions for Use. For ULV applications - field crops, apply the specified amount of MALATHION 5 in less than 2 gallons of water per acre. For ULV applications - tree crops/orchards, apply the specified amount of Malathion 5 in less than 10 gallons of water per acre.

#### Spray Drift Requirements:

Observe the following requirements when spraying in the vicinity of aquatic areas such as, but not limited to, lakes; reservoirs; rivers, permanent streams; marshes or natural ponds; estuaries and commercial fish ponds.

**Droplet Size:** Use the largest droplet size consistent with acceptable efficacy. Formation of very small droplets may be minimized by appropriate nozzle selection, by orienting nozzles away from the air stream as much as possible, and by avoiding excessive spray boom pressure.

For groundboom and aerial applications, use only medium or coarser spray nozzles according to ASAE (S572) definition for standard nozzles, or a volume mean diameter (VMD) of 300 microns or greater for spinning atomizer nozzles. In conditions of low humidity and high temperatures, applicators should use a coarser droplet size.

**Wind Direction and Speed:** Make aerial or ground applications when the wind velocity favors on target product deposition (approximately 3 to 10 mph). Do not apply when wind velocity exceeds 15 mph. Avoid

applications when wind gusts approach 15 mph. For all non-aerial applications, wind speed must be measured adjacent to the application site on the upwind side, immediately prior to application.

**Temperature Inversion:** Do not make aerial or ground applications into areas of temperature inversions. Inversions are characterized by stable air and increasing temperatures with increasing distance above the ground. Mist or fog may indicate the presence of an inversion in humid areas. Where permissible by local regulations, the applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface. In conditions of low humidity and high temperatures, applicators should use a coarser droplet size.

**Additional Requirements for Ground Applications:** For groundboom applications, apply with nozzle height no more than 4 feet above the ground or crop canopy. For airblast applications, turn off outward pointing nozzles at row ends and when spraying the outer two rows. To minimize spray loss over the top in orchard applications, spray must be directed into the canopy.

**Additional Requirements for Aerial Applications:** For aerial applications, the spray boom should be mounted on the aircraft as to minimize drift caused by wingtip or rotor vortices. Spray should be released at the lowest height consistent with pest control and flight safety. Applications more than 10 feet above the crop canopy should be avoided. The minimum practical boom length should be used and must not exceed 75% of wing span or 90% rotor diameter. Aerial applicators must consider flight speed and nozzle orientation in determining droplet size. When applications are made with a cross-wind, the swath will be displaced downwind. The applicator must compensate for this displacement at the downwind edge of the application area by adjusting the path of the aircraft upwind.

**Buffer Zones for Aerial Application:**

When making a Non-ULV application with aerial application equipment, a minimum buffer zone of 25 feet must be maintained along any water body.

When making a ULV application with aerial application equipment, a minimum buffer zone of 50 feet must be maintained along any water body.

**APPLICATION INSTRUCTIONS**

When an application rate range is given, use the higher rate under heavy pest pressure.

**CITRUS**

CROP	INSECTS CONTROLLED	AMOUNT of MALATHION 5 TO APPLY PER ACRE	MINIMUM PREHARVEST INTERVALS (DAYS)	MAXIMUM APPLICATIONS PER YEAR	REI	MINIMUM APPLICATION INTERVAL
Grapefruit, Lemons, Limes, Oranges, Tangerines Non ULV Application For All States	California Red Scale, Yellow Scale, Black Scale, Soft Scale, Citrocoloa Scale	1.5 pints	7	3	12 hours	30 days
	Red Scale, Purple Scale	1.25 – 2.0 pints				
	Thrips Do not apply during full bloom.	1.25 pints				

CROP	INSECTS CONTROLLED	AMOUNT of MALATHION 5 TO APPLY PER ACRE	MINIMUM PREHARVEST INTERVALS (DAYS)	MAXIMUM APPLICATIONS PER YEAR	REI	MINIMUM APPLICATION INTERVAL
Grapefruit, Lemons, Limes, Oranges, Tangerines  ULV Application  For All States  Use closed mixing and loading system.	California Red Scale, Yellow Scale, Black Scale, Soft Scale, Citrocoloa Scale, Red Scale, Purple Scale, Thrips Do not apply during full bloom.	4.0 fl. oz.	7	3	12 hours	7 days

**CUCURBITS**

CROP	INSECTS CONTROLLED	AMOUNT of MALATHION 5 TO APPLY PER ACRE	MINIMUM PREHARVEST INTERVALS (DAYS)	MAXIMUM APPLICATIONS PER YEAR	REI	MINIMUM APPLICATION INTERVAL
Cucumbers	Aphids, Spider mites, Pickleworms	1.5 pints	1	2	24 hours	7 days
	Leaf miners	2.0 pints				
	Cucumber beetles, Squash vine borers	2.75 pints				
Pumpkins	Aphids, Cucumber Beetles, Leaf miners, Pickleworms, Spider mites, Squash vine borers	1.5 pints	1	2	12 hours	7 days
Summer Squash	Aphids, Spider mites, Pickleworms	1.5 pints	1	3	24 hours	7 days
	Leaf miners	2.0 pints				
	Cucumber beetles, Squash vine borers	2.75 pints				
Winter Squash	Aphids, Cucumber Beetles, Leaf miners, Pickleworms, Spider mites, Squash vine borers	1.5 pints	1	3	12 hours	7 days
Cantaloupes, Honeydew melons	Aphids, Spider Mites, Leafhoppers, Pickleworms, Cucumber Beetle	1.6 pints	1	2	12 hours	7 days
Watermelons	Aphids, Spider Mites	1.5 - 2.0 pints	1	4	12 hours	7 days
	Leafhoppers, Pickleworms	2.25 pints				
	Cucumber Beetle	2.0 pints				

**FIELD CROPS**

CROP	INSECTS CONTROLLED	AMOUNT of MALATHION 5 TO APPLY PER ACRE	MINIMUM PREHARVEST INTERVALS (DAYS)	MAXIMUM APPLICATIONS PER YEAR	REI	MINIMUM APPLICATION INTERVAL
Cotton Non ULV Application	Boll Weevil	2.0 - 4.0 pints	7	3	2 days	7 days
	Desert Spider Mite, Cotton Aphid, Leafhoppers, White Flies, Cotton Leafworm, Brown Cotton Leafworm, Cotton Leaf Perforator, Thrips, Lygus Bugs	2.0 - 4.0 pints				
	Fleahoppers	1.0 - 1.5 pints				
	Fall Armyworms, Grasshoppers, Garden Webworms	1.5 - 3.0 pints				
Cotton ULV Application  Use closed mixing and loading system.	Boll Weevil, Desert Spider Mite, Cotton Aphid, Leafhoppers, White Flies, Cotton Leafworm, Brown Cotton Leafworm, Cotton Leaf Perforator, Thrips, Lygus Bugs	31.2 fl. oz.	7	3	2 days	7 days
	Fleahoppers	16.0 - 24.0 fl. oz.				
	Fall Armyworms, Grasshoppers, Garden Webworms	24.0 - 31.2 fl. oz.				

**FORAGE CROPS**

CROP	INSECTS CONTROLLED	AMOUNT of MALATHION 5 TO APPLY PER ACRE	MINIMUM PREHARVEST INTERVALS (DAYS)	MAXIMUM APPLICATIONS PER YEAR	REI	MINIMUM APPLICATION INTERVAL
Alfalfa, Clover	Armyworms	2.0 pints	0	2/cutting	12 hours	14 days
Non-ULV Application	Grasshoppers, Aphids, Leafhoppers, Lygus Bugs, Spider Mites, Alfalfa Weevil Larvae, Spittlebug	1.5 - 2.0 pints				

CROP	INSECTS CONTROLLED	AMOUNT of MALATHION 5 TO APPLY PER ACRE	MINIMUM PREHARVEST INTERVALS (DAYS)	MAXIMUM APPLICATIONS PER YEAR	REI	MINIMUM APPLICATION INTERVAL
Alfalfa, Clover  ULV Application  Use closed mixing and loading system.	Armyworms, Grasshoppers, Aphids, Leafhoppers, Lygus Bugs, Spider Mites, Alfalfa Weevil Larvae, Spittlebug	15.6 fl. oz.	0	2/cutting	12 hours	14 days
Grass, Grass Hay	Armyworms	2.0 pints	0	1/cutting	12 hours	N/A
	Grasshoppers, Aphids, Leafhoppers, Lygus Bugs, Spider Mites, Alfalfa Weevil Larvae, Spittlebug	1.5 – 2.0 pints				
Pasture and Rangeland  ULV Application Only  Use closed mixing and loading system.	Armyworms, Grasshoppers, Aphids, Leafhoppers, Lygus Bugs, Spider Mites, Alfalfa Weevil Larvae, Spittlebug	23.5 fl. oz.	0	1/cutting	12 hours	7 days

**GRAIN CROPS**

CROP	INSECTS CONTROLLED	AMOUNT of MALATHION 5 TO APPLY PER ACRE	MINIMUM PREHARVEST INTERVALS (DAYS)	MAXIMUM APPLICATIONS PER YEAR	REI	MINIMUM APPLICATION INTERVAL
Barley  Non ULV Application	Cereal Leaf Beetle	1.0 – 1.5 pints	7	2	12 hours	7 days
	English Grain Aphid, Greenbugs	1.5 pints				
	Armyworms	2.0 pints				
	Grasshoppers, Aphids, Leafhoppers, Spider Mites, Alfalfa Weevil Larvae, Spittlebug	1.5 – 2.0 pints				
For grasshoppers, make full coverage to hatching areas when nymphs are young.						
Barley  ULV Application  Use closed mixing and loading system.	Alfalfa Weevil Larvae, Armyworms, Cereal Leaf Beetle, English Grain Aphid, Greenbugs, Grasshoppers, Leafhoppers, Spider Mites, Spittlebug	15.6 fl. oz.	7	2	12 hours	7 days
For grasshoppers, make full coverage to hatching areas when nymphs are young.						

CROP	INSECTS CONTROLLED	AMOUNT of MALATHION 5 TO APPLY PER ACRE	MINIMUM PREHARVEST INTERVALS (DAYS)	MAXIMUM APPLICATIONS PER YEAR	REI	MINIMUM APPLICATION INTERVAL
Corn (field) Non ULV Application	Cereal Leaf Beetle	1.0 – 1.5 pints	7	2	12 hours  except 3 days for detasseling	7 days
	English Grain Greenbugs	1.5 pints				
	Armyworms	1.6 pints				
	Grasshoppers, Aphids, Leafhoppers, Spider Mites, Alfalfa Weevil Larvae, Spittlebug	1.6 pints				
For grasshoppers, make full coverage to hatching areas when nymphs are young.						
Corn (field) ULV Application	Alfalfa Weevil Larvae, Armyworms, Cereal Leaf Beetle, English Grain Aphid, Greenbugs, Grasshoppers, Leafhoppers, Spider Mites, Spittlebug	15.6 fl. oz.	7	2	12 hours  except 3 days for detasseling	7 days
For grasshoppers, make full coverage to hatching areas when nymphs are young.						
Corn (sweet) Non ULV Application	Japanese beetles	1.6 pints	5	2	12 hours  except 3 days for detasseling	5 days
Injury may occur in the whorl or to the silks.						
Corn (sweet) ULV Application	Japanese beetles	15.6 fl. oz.	5	2	12 hours  except 3 days for detasseling	5 days
Injury may occur in the whorl or to the silks.						
Oats, Wheat Non ULV Application	Cereal Leaf Beetle	1.0 – 1.5 pints	7	2	12 hours	7 days
	English Grain Greenbugs	1.5 pints				
	Armyworms	1.6 pints				
	Grasshoppers, Aphids, Leafhoppers, Spider Mites, Alfalfa Weevil Larvae, Spittlebug	1.6 pints				
For grasshoppers, make full coverage to hatching areas when nymphs are young.						

CROP	INSECTS CONTROLLED	AMOUNT of MALATHION 5 TO APPLY PER ACRE	MINIMUM PREHARVEST INTERVALS (DAYS)	MAXIMUM APPLICATIONS PER YEAR	REI	MINIMUM APPLICATION INTERVAL
Oats, Wheat ULV Application Use closed mixing and loading system.	Alfalfa Weevil Larvae, Armyworms, Cereal Leaf Beetle, English Grain Aphid, Greenbugs, Grasshoppers, Leafhoppers, Spider Mites, Spittlebug	15.6 fl. oz.	7	2	12 hours	7 days
For grasshoppers, make full coverage to hatching areas when nymphs are young.						
Rice Non ULV Application	Rice leaf miners.	2.0 pints	7	2	12 hours	7 days
	Rice stink bugs.	1.0 – 1.5 pints				
Broadcast use only over intermittently flooded areas. Application may not be made around bodies of water where fish or shellfish are grown and/or harvested commercially. For rice leaf miners, make first application shortly after the first rice blades appear on the surface of the water. For rice stink bugs, apply by airplane in 2 gallons of water per acre during the early milk and dough stage of growing rice.						
Rice ULV Application Use closed mixing and loading system.	Rice leaf miners.	15.6 fl. oz.	14	2	12 hours	7 days
	Rice stink bugs.	15.6 fl. oz.				
Broadcast use only over intermittently flooded areas. Application may not be made around bodies of water where fish or shellfish are grown and/or harvested commercially. For rice leaf miners, make first application shortly after the first rice blades appear on the surface of the water. For rice stink bugs, apply by airplane in 2 gallons of water per acre during the early milk and dough stage of growing rice.						
Rye Non ULV Application	Cereal Leaf Beetle	1.0 – 1.5 pints	7	3	12 hours	7 days
	English Grain Greenbugs	1.5 pints				
	Armyworms	1.6 pints				
	Grasshoppers, Aphids, Leafhoppers, Spider Mites, Alfalfa Weevil Larvae, Spittlebug	1.6 pints				
For grasshoppers, make full coverage to hatching areas when nymphs are young.						
Rye ULV Application Use closed mixing and loading system.	Alfalfa Weevil Larvae, Armyworms, Cereal Leaf Beetle, English Grain Aphid, Greenbugs, Grasshoppers, Leafhoppers, Spider Mites, Spittlebug	15.6 fl. oz.	7	1	12 hours	NA
For grasshoppers, make full coverage to hatching areas when nymphs are young.						

**NUT CROP**

CROP	INSECTS CONTROLLED	AMOUNT of MALATHION 5 TO APPLY PER ACRE	MINIMUM PREHARVEST INTERVALS (DAYS)	MAXIMUM APPLICATIONS PER YEAR	REI	MINIMUM APPLICATION INTERVAL
Pecans	Aphids, European red mite, Pecan phylloxera, Pecan budmoth, Pecan leaf casebearer, Pecan nut casebearer, Spider mite, Walnut aphid, Walnut husk fly	4.0 pints*	7	2	24 hours	7 days

\*Application rate is based on a standard of 500 gallons of dilute spray per acre for mature trees 25 to 35 feet high. Apply when buds begin to develop. For control of pecan nut casebearer and walnut husk fly apply after first generation eggs begin to hatch.

**VEGETABLES AND FRUITS (except citrus, cucurbits and root crops)**

CROP	INSECTS CONTROLLED	AMOUNT of MALATHION 5 TO APPLY PER ACRE	MINIMUM PREHARVEST INTERVALS (DAYS)	MAXIMUM APPLICATIONS PER YEAR	REI	MINIMUM APPLICATION INTERVAL
Beans: Dry, Lima, Snap,  ULV Aerial Application Only  Use closed mixing and loading system.	Mexican Bean Beetles, Leafhoppers, Aphids, Cucumber Beetles, Bean Leaf Beetles, Blister Beetles, Lygus Bugs, Spider Mites, Japanese Beetles	15.6 fl. oz.	7	2	12 hours	7days
Broccoli	Aphids	1.5 – 2.0 pints	2	2	2 days	7 days
	Imported Cabbage Worms, Diamond-Back Moth Larvae and Adults	2.0 pints				
	Cabbage Loopers	1.0 – 2.0 pints				
Brussels Sprouts	Aphids	1.5 – 2.0 pints	2	2	2 days	7 days
	Imported Cabbage Worms, Diamond-Back Moth Larvae and Adults	2.0 pints				
	Cabbage Loopers	1.0 – 2.0 pints				
Cabbage	Aphids	1.5 – 2.0 pints	7	6	2 days	7 days
	Cabbage Loopers	1.0 – 2.0 pints				
	Diamond-Back Moths	2.0 pints				

CROP	INSECTS CONTROLLED	AMOUNT of MALATHION 5 TO APPLY PER ACRE	MINIMUM PREHARVEST INTERVALS (DAYS)	MAXIMUM APPLICATIONS PER YEAR	REI	MINIMUM APPLICATION INTERVAL
Cauliflower	Aphids	1.5 – 2.0 pints	2	2	2 days	7 days
	Imported Cabbage Worms, Diamond-Back Moth Larvae and Adults	2.0 pints				
	Cabbage Loopers	1.0 – 2.0 pints				
Celery  To be applied to fresh leaves and stalks only.	Aphids, Spider Mites	1.5 pints	7	2	24 hours	7 days
Cherries* Non ULV Application  *Not registered in California	Black Cherry Aphid Fruit Tree Leafroller	0.7 pints /100 gal.	3	4	12 hours	3 days
	Cherry Fruit Fly Japanese Beetle Eyespotted Bud Moth	0.7 pints /100 gal.				
The non ULV application rates for use on cherries are based on a standard of 400 gallons per acre dilute spray for mature trees. Do not apply more than 1.75 lbs. active ingredient (2.8 pints of actual MALATHION 5) per acre per application. Do not apply more than 7 lbs. active ingredient per acre per year. Injury may occur on sweet cherries, particularly in Idaho, Oregon and Washington.						
Cherries, Sweet*  ULV Application  Use closed mixing and loading system.  *Not registered in California	Black Cherry Aphid Fruit Tree Leafroller Cherry Fruit Fly Japanese Beetle Eyespotted Bud Moth	31.2 fl. oz.	1	4	12 hours	7 days
Do not apply more than 1.22 lbs. active ingredient (1.9 pints of actual MALATHION 5) per acre per application. Do not apply more than 4.88 lbs active ingredient per acre per year. Injury may occur on sweet cherries, particularly in Idaho, Oregon and Washington.						
Cherries, Tart*  ULV Application  Use closed mixing and loading system.  *Not registered in California	Black Cherry Aphid, Fruit Tree Leafroller, Cherry Fruit Fly Japanese Beetle, Eyespotted Bud Moth	31.2 fl. oz.	1	6	12 hours	7 days
Do not apply more than 1.22 lbs. active ingredient (1.9 pints of actual MALATHION 5) per acre per application. Do not apply more than 7.32 lbs active ingredient per acre per year.						

CROP	INSECTS CONTROLLED	AMOUNT of MALATHION 5 TO APPLY PER ACRE	MINIMUM PREHARVEST INTERVALS (DAYS)	MAXIMUM APPLICATIONS PER YEAR	REI	MINIMUM APPLICATION INTERVAL
Collards	Aphids, Imported Cabbage Worms, Diamond-Back Moth Larvae and Adults	1.6 pints	7	3	12 hours	7 days
	Harlequin Cabbage Bugs	1.0 pint				
	Cabbage Loopers	1.0 – 1.6 pints				
Dandelions	Aphids	1.5 – 2.0 pints	7	2	24 hours	7 days
	Cabbage Loopers	1.0 – 2.0 pints				
	Diamond-Back Moths	2.0 pints				
Eggplant	Aphids, Spider Mites	1.0 pint	3	4	12 hours	5 days
	Lacebugs	2.5 pints				
Endive	Aphids, Spider Mites	1.5 – 2.0 pints	7	2	24 hours	7 days
Garlic, Shallots	Aphids, Thrips	1.5 – 2.0 pints	3	3 – garlic 2 - shallots	24 hours	7 days
Kale	Aphids	1.5 – 1.6 pints	7	3	24 hours	5 days
	Cabbage Loopers	1.0 – 1.6 pints				
	Diamond-Back Moths	1.6 pints				
Kohlrabi	Aphids	1.5 – 2.0 pints	7	2	24 hours	7 days
	Cabbage Loopers	1.0 – 2.0 pints				
	Diamond-Back Moths	2.0 pints				
Leeks	Aphids	1.5- 2.0 pints	3	2	24 hours	7 days
	Onion maggot flies, Thrips	2.5 pints				
Lettuce	Leafhoppers, Aphids	2.0 pints	14	2	24 hours	5 days – leaf 6 days – head
	Cabbage Loopers	3.0 pints				
Mustard Greens	Aphids, Flea Beetles	1.5 - 1.6 pints	7	3	12 hours	5 days
	Cabbage Loopers	1.0 – 1.6 pints				
	Diamond-Back Moths	1.6 pints				
Onions	Onion maggots	1.5 – 2.5 pints	3	2	12 hours	7 days
	Onion thrips	1.5 – 2.0 pints				
Parsley	Aphids	1.5 – 2.0 pints	7	2	24 hours	7 days
	Cabbage Loopers	1.0 – 2.0 pints				
	Diamond-Back Moths	2.0 pints				

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CROP	INSECTS CONTROLLED	AMOUNT of MALATHION 5 TO APPLY PER ACRE	MINIMUM PREHARVEST INTERVALS (DAYS)	MAXIMUM APPLICATIONS PER YEAR	REI	MINIMUM APPLICATION INTERVAL
Peas Do not feed treated vines/forage to livestock or allow livestock to graze in treated fields.	Pea Weevil	1.6 pints	3	2	12 hours	7 days
	Aphids	1.0 pint	3	2	12 hours	5 days
Peppers	Pepper maggots	2.5 pints				
Spinach	Aphids	1.6 pints	7	2	12 hours	7 days
Swiss Chard	Aphids	1.5 – 1.6 pints	14	2	12 hours	7 days
	Cabbage Loopers	1.0 – 1.6 pints				
	Diamond-Back Moths	1.6 pints				
Tomatoes (outdoors)	Spider Mites	1.5 pints	1	4	12 hours	5 days
	Aphids	1.0 pint				
	Drosophila	2.5 pints				
	Armyworms, Fruitworms (California only)	2.5 pints				
Turnips	Aphids	1.5 – 2.0 pints	7	3	24 hours	5 days for turnip greens 7 days for turnip root
	Cabbage Loopers	1.0 – 2.0 pints				
	Diamond-Back Moths	2.0 pints				
Watercress	Aphids	1.0- 1.9 pints	3	5	24 hours	3 days
	Cabbage Loopers	1.0 - 1.9 pints				
	Diamond-Back Moths	2.0 pints				
Peppermint Spearmint	Aphids, Flea beetles, Leafhoppers, Spider mites	1.5 pints	7	3	12 hours	7 days

**ROOT CROPS**

CROP	INSECTS CONTROLLED	AMOUNT of MALATHION 5 TO APPLY PER ACRE	MINIMUM PREHARVEST INTERVALS (DAYS)	MAXIMUM APPLICATIONS PER YEAR	REI	MINIMUM APPLICATION INTERVAL
Beets (garden) Not for use on Sugar Beets.	Aphids	1.5 – 2.0 pints	7	3	12 hours	7 days
Horseradish, Parsnips, Salsify	Aphids	1.5 – 2.0 pints	7	3	24 hours	7 days
Potatoes (see below for sweet potatoes)	Aphids, Leafhoppers, Mealybugs	1.0 pint	0	2	12 hours	7 days
	False Chinch Bugs	1.5 pints				
	Grasshoppers	2.0 pints				
Radishes	Aphids	1.6 pints	7	3	12 hours	7 days
Rutabagas	Aphids	1.6 pints	7	3	12 hours	7 days
Sweet Potatoes	Leafhoppers	1.5 – 2.0 pints	0	2	12 hours	7 days
	Morningglory Leafhoppers	2.5 pints				

**MISCELLANEOUS CROPS**

CROP	INSECTS CONTROLLED	AMOUNT of MALATHION 5 TO APPLY PER ACRE	MINIMUM PREHARVEST INTERVALS (DAYS)	MAXIMUM APPLICATIONS PER YEAR	REI	MINIMUM APPLICATION INTERVAL
Grapes	Leafhoppers, Spider mites, European Fruit Lecanium	3.0 pints	3	2	24 hours except  3 days for girdling and tying	14 days
	Mealybugs Apply in 50-100 gallons of water per acre.	1-1/2 pints				

Unless otherwise noted, the rates for use on grapes are based on a standard of 200 gallons per acre dilute spray. Injury may occur on grapes of Almeria, Cardinal, Italia and Riberia varieties when sprays containing MALATHION 5 are applied after clusters appear. Make full coverage applications when newly hatched nymphs are migrating over vines, usually shortly after bloom.

Hops	Aphids, Spider Mites	1.0 pint	10	3	12 hours	7 days
Mushrooms  Make thorough applications as soon after picking as possible.  Do not apply by air.	Mites, Phorid and Sciariid flies	2.5 pints in 130 gallons of water; or, 2 tablespoons in 3 gallons of water per 1000 square feet of bed	1	4	12 hours	7 days
Okra  Do not apply after pods start to form.	Aphids	1.5 pints	1	5	12 hours	7 days
	Japanese beetles	1.9 pints				
Strawberries	Aphids, Spider Mites	1.5 pints	3	4	12 hours	7 days
	Field crickets, Lygus bugs,	1.5 – 3.0 pints				

	Spittle-bugs, Thrips					
	Potato leafhoppers, Strawberry leafrollers, Strawberry root weevils, Whiteflies	1.5 – 2.5 pints				

**ORNAMENTALS – OUTDOOR ONLY**

CROP	INSECTS CONTROLLED	AMOUNT of MALATHION 5 TO APPLY PER ACRE	MINIMUM PREHARVEST INTERVALS (DAYS)	MAXIMUM APPLICATIONS PER YEAR	REI	MINIMUM APPLICATION INTERVAL
Herbaceous plants, Ornamental trees, Woody shrubs, Vines	Lace bugs, Oyster shell scale	1.0 pint /100 gallons of water	Not applicable	2	12 hours	10 days
	Aphids, Spider mites, Whitefly, Mealybugs, Thrips, Japanese beetle adults, Four-lined leaf bug, Tarnished plant bug, Rose leafhopper, Potato leafhopper, European pine shoot moth, Scurfy scale, Euonymus scale.	1.5 pints/100 gallons of water				
	Bagworms, Tent caterpillar, Birch leaf miner, Boxwood leaf miner, Oak kermes, Juniper scale, Fletcher scale, Florida red scale, Azalea scale, Magnolia scale, Pine leaf scale.	2.0 pints/100 gallons of water				
	Soft brown scale, Monterey pine scale, Black scale Crawlers	2.5 pints/100 gallons of water				
	Pine needle scale	4.0 pints/100 gallons of water				
<p>Make thorough, full-coverage spray applications. For scales, apply when crawlers have settled on foliage. Injury may occur on certain ferns, including Boston, Maidenhair and Pteris, as well as some species of crassula.</p>						

**GRAIN STORAGE (Grain Elevators & Silos)**

For the protection of the following stored grains: wheat, oats, corn, rye and barley. To control confused flour beetle, rice weevil, granary weevil, saw-toothed grain beetle, flat grain beetle, red flour beetle, rusty grain beetle, lesser grain borer, Indian meal moth and cereal leaf beetle, apply MALATHION 5 to walls, floors and machinery in grain elevators, and grain bins before loading grain. Mix one (1) gallon of MALATHION 5 with 25 gallons of water and spray surfaces to point of run-off. Clean elevators and bins thoroughly before applying spray. Remove and burn all sweepings and debris. Do not apply directly to grain.

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~~**OUTDOOR FLY CONTROL:** For the control of flies around yards (spot treatment only) and around the lower outside foundation of homes, apply a spray containing 2 gallons of MALATHION 5 in 100 gallons of water. Apply the spray to the structure base at the rate of one gallon per 1,000 square feet on painted surfaces, and two gallons per 1,000 square feet on unpainted surfaces where flies alight or congregate. Spray may also be applied to a 2 foot wide swath from the structure base. Repeat applications as necessary.~~

~~**OUTDOOR RESIDENTIAL MOSQUITO CONTROL**~~

~~For control of mosquitoes outdoors, use a 2% to 5% Malathion spray. To prepare a 2% spray, dilute 1 part of MALATHION 5 with 28 parts of water. To prepare a 5% spray, dilute 1 part of MALATHION 5 with 11 parts of water. Apply as a spot treatment to shrubbery and vegetation where mosquitoes may rest. Repeat as necessary.~~

~~Application of this product to any body of water is prohibited.~~

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